

Title (en)

DIE CASTING OF HIGH TEMPERATURE MATERIAL

Title (de)

DRUCKGIESSEN VON HOCHTEMPERATURMATERIALIEN

Title (fr)

MOULAGE SOUS PRESSION DE MATIERES A HAUTE TEMPERATURE

Publication

**EP 1152851 B1 20070801 (EN)**

Application

**EP 99967586 A 19991222**

Priority

- US 9930810 W 19991222
- US 11416798 P 19981223

Abstract (en)

[origin: WO0037201A1] A die casting machine (18) includes a melting unit (24), a horizontal shot sleeve (30) in fluid communication with die cavity (36) for receiving molten titanium from the melting unit (24), and a plunger (40) sealing and moveable engagement with the shot sleeve (30) for forcing molten material from the shot sleeve (30) into the die cavity (36). The melting unit (24), the shot sleeve (30) and the die cavity (36) are maintained in a non-reactive environment. The material is melted to a low superheat, e.g. less than about 200 DEG F/95 DEG C. Molten material is then transferred from the melting unit (24) to the shot sleeve (30) to fill not more than about one half of the shot sleeve volume. The molten material is injected from the sleeve (30) into the die cavity (36) using the plunger (40) for solidification in the die cavity (36). The resulting articles have a fine average grain microstructure and are characterized by an absence of flowlines.

IPC 8 full level

**B22D 17/04** (2006.01); **F02C 7/00** (2006.01); **B22C 9/06** (2006.01); **B22C 9/22** (2006.01); **B22D 17/00** (2006.01); **B22D 17/10** (2006.01); **B22D 17/14** (2006.01); **B22D 17/22** (2006.01); **B22D 17/32** (2006.01); **B22D 21/00** (2006.01); **B22D 21/02** (2006.01); **B22D 27/20** (2006.01); **B22D 29/00** (2006.01); **C22C 14/00** (2006.01); **C22C 19/03** (2006.01); **C22C 19/07** (2006.01); **F04D 29/02** (2006.01); **F04D 29/38** (2006.01)

CPC (source: EP KR)

**B22D 17/00** (2013.01 - EP KR); **B22D 17/10** (2013.01 - EP); **B22D 21/005** (2013.01 - EP); **B22D 21/025** (2013.01 - EP)

Cited by

EP2540416A3; US8919422B2; US9289823B2; US9878368B2

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

**WO 0037201 A1 20000629**; AT E368541 T1 20070815; AU 2384700 A 20000712; DE 69936736 D1 20070913; DE 69936736 T2 20080430; EP 1152851 A1 20011114; EP 1152851 A4 20040331; EP 1152851 B1 20070801; IL 143931 A0 20020421; IL 143931 A 20060611; JP 2002532260 A 20021002; KR 20020003358 A 20020112

DOCDB simple family (application)

**US 9930810 W 19991222**; AT 99967586 T 19991222; AU 2384700 A 19991222; DE 69936736 T 19991222; EP 99967586 A 19991222; IL 14393101 A 20010621; IL 14393199 A 19991222; JP 2000589299 A 19991222; KR 20017008058 A 20010622